REMARKS

Applicant requests favorable reconsideration and allowance of the subject application in view of the preceding amendments and the following remarks.

To place the application in better form, the specification has been amended to correct minor informalities. No new matter has been added by these changes.

Claims 1-3 and 5-20 are presented for consideration. Claims 1, 9 and 19 are independent. Claims 1 and 9 have been amended to clarify features of the invention, while claim 4 has been canceled without prejudice or disclaimer. Support for these changes can be found in the original application as filed. Therefore, no new matter has been added.

Applicant reserves the right to file a divisional application directed to the subject matter of non-elected claims 19 and 20.

Applicant requests favorable reconsideration and withdrawal of the rejection set forth in the above-noted Office Action.

Claims 1-18 were rejected under 35 U.S.C. § 103 as being unpatentable over Applicant's background statement in view of U.S. Patent No. 4,856,904 to Akagawa. This rejection is respectfully traversed. Nevertheless, Applicant submits that independent claims 1 and 9, as presented, amplify the distinctions between the present invention and the cited art.

In one aspect of the invention, independent claim 1 recites a mini-environment pod device for a micro-device manufacturing apparatus. The device includes a cassette being able to hold a substrate, a pod providing an inner space to store the cassette and a lid,

which fits into an opening of the pod, the lid providing an isolated environment in the inner space. The pod includes an electromagnetic shield for inhibiting leakage of electromagnetic waves outside the apparatus through the pod when the pod is installed on a surface of the apparatus, and the pod is in a conductive relationship with the surface of the apparatus when the pod is installed on the surface of the apparatus.

In another aspect of the invention, independent claim 9 recites a micro-device manufacturing apparatus for processing substrates. The apparatus includes a shielded chamber having an opening covered with a door, a mini-environment pod, a door opener, and a processing system. The mini-environment pod has an open end and contains a cassette for holding a substrate and includes a lid covering the open end. The pod is installed over the opening of the chamber. Also, the mini-environment pod has an electromagnetic shield for inhibiting leakage of electromagnetic waves outside the chamber through the pod when the pod is installed on the chamber, and the electromagnetic shield is in a conductive relationship with the shielded member when the pod is installed on the chamber. The door opener opens the door of the chamber and the lid of the pod when the min-environment pod is installed on the chamber. Further, the processing system is contained in the chamber and processes a wafer in the chamber.

By such an arrangement, in the present invention, when a lid of a pod and a chamber door of an apparatus are opened together with a mini-environment pod being installed on a micro-device manufacturing apparatus, for example, the environment within the pod and that within the apparatus can be connected so that the pod and the chamber can be in a

conductive relationship with each other. In this manner, it is possible to inhibit leakage of electromagnetic waves generated within the apparatus by an electromagnetic shield of the pod. Thus, by installing a pod mechanically, for example, the pod and the apparatus can both be environmentally and electronically connected with each other. Thereby, it is possible to inhibit leakage of the electromagnetic waves.

Applicant submits that the cited art does not teach or suggest, such features of the present invention, as recited in independent claims 1 and 9.

With regard to Applicant's background statement, Applicant submits that the discussion on pages 1-3 of the specification does not teach or suggest, in any manner, a pod with an electromagnetic shield that inhibits leakage of electromagnetic waves outside a micro-device manufacturing apparatus through the pod.

Applicant further submits that the remaining art cited does not cure the deficiencies noted above.

The Akagawa patent, in Applicant's view, only teaches (see column 6, lines 62-68 with respect to Figure 2) that electromagnetic shield members 46, 47 may be provided to reduce the influence on an inspection unit of electromagnetic noise generated in the other (that is, adjacent) inspection unit within a chamber. The use of such shield members is said to be desirable, therefore, in case a considerable electromagnetic influence is anticipated between the inspection units.

Applicant submits, however, that the cited art, even if taken in combination, does not teach or suggest the salient features of Applicant's present invention, as recited in

independent claims 1 and 9, including at least the feature of an electromagnetic shield that inhibits leakage of electromagnetic waves outside the micro-device manufacturing apparatus or chamber through the pod when the pod is installed on a surface of the apparatus. In this regard, Applicant submits that the addition of the electromagnetic shield members discussed in the Akagawa patent, inside a chamber to reduce electromagnetic noise transferred to an adjacent inspection unit inside the chamber, as applied to Applicant's background discussion of a pod without an electromagnetic shield, would fail to teach or suggest the salient features of Applicant's present invention as recited in independent claims 1 and 9.

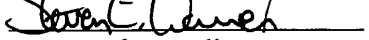
For the foregoing reasons, Applicant submits that the present invention, as recited in independent claims 1 and 9, is patentably defined over the cited art, whether that art is taken individually or in combination.

Dependent claims 2, 3, 5-8 and 10-18 also should be deemed allowable, in their own right, for defining other patentable features of the present invention in addition to those recited in their respective independent claims. Further individual consideration of these dependent claims is requested.

Applicant further submits that the instant application is in condition for allowance. Favorable reconsideration, withdrawal of the rejection set forth in the above-noted Office Action and an early Notice of Allowance are requested.

Applicant's undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should be directed to our address listed below.

Respectfully submitted,



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APPENDIX A

IN THE SPECIFICATION

Please replace the paragraph starting at page 1, line 9, and ending on page 2, line 3, with the following paragraph.

-- FIG. 10 shows a structure of a conventional exposure apparatus 101 as a micro-device manufacturing apparatus. In this apparatus, a handling robot 1 draws a wafer 4 (e.g., a semiconductor substrate, a glass substrate, etc.) from a cassette 2, which stores a plurality of wafers, and carries the wafer 4 into a mechanical pre-alignment station 39. In the [pre-aliment] pre-alignment station 39, after the wafer 4 is held with a chuck 8, an alignment optical system 9 - 11 detects a wafer edge position while the wafer 4 is rotated by a θ-stage 7. Detection signals are produced and processed to calculate an orientation flat 4a direction and an off-center deviation of the wafer 4 held by the chuck 8, in order to align the wafer 4 using an X-stage 5, a Y-stage 6 and the θ-stage 7. The above-mentioned operation is a so-called "orientation flat detection" operation. After the pre-alignment, the wafer 4 is transferred to a wafer chuck 12 of an exposure station 13 and an exposure operation is performed in a step-and-repeat manner using an XY-stage 14. Thereafter, the handling robot 1 withdraws the exposed wafer to return it to another cassette 3. The foregoing elements are housed in a clean room environment 100. --

Please replace the paragraph starting at page 6, line 26, and ending on page 7, line 3, with the following paragraph.

-- FIG. 1 illustrates a structure of an exposure apparatus 110 for manufacturing micro-devices using a front open type pod (FOUP) as a mini-environment pod 20, according to an embodiment of the present invention. While the exposure apparatus 110 is one example of a micro-device manufacturing apparatus that is suitably usable, the present invention is applicable to any type of micro-device manufacturing apparatus using mini-environment pods, e.g., a resist coating apparatus, a developing apparatus, a heating apparatus, an inspection apparatus, etc. --

IN THE CLAIMS

1. (Amended) A mini-environment pod device for a micro-device manufacturing apparatus, said device comprising:

a cassette being able to hold a [plurality of wafers] substrate;

a pod providing an inner space to store [the] said cassette, wherein said pod includes an electromagnetic shield for [shielding the pod] inhibiting leakage of electromagnetic waves outside the apparatus through said pod when said pod is installed on a surface of the apparatus and said pod is in a conductive relationship with the surface of the apparatus, when the pod is installed on the surface of the apparatus; and

a lid which fits into an opening of said pod, [the] said lid providing an isolated environment in the inner space.

9. (Amended) A micro-device manufacturing apparatus for processing substrates, said apparatus comprising:

a shielded chamber having an opening covered with a door;

a mini-environment pod, having an open end, containing a cassette for holding a [plurality of wafers] substrate and including a lid covering the open end, said pod being installed over the opening of said chamber, wherein said mini-environment pod has an electromagnetic shield for inhibiting leakage of electromagnetic waves outside the chamber through said pod when said pod is installed on said chamber, and [when said pod is installed on said chamber,] said electromagnetic shield is in a conductive relationship with said shielded chamber when said pod is installed on said chamber;

a door opener which opens the door of said chamber and the lid of said pod when said mini-environment pod is installed on said chamber; and

a processing system, contained in said chamber, which processes a wafer in said chamber.